BIOS

Alberta Society of Professional Biologists • Fall 2009 Volume 24 • Number 3

A Message From Your President

Welcome to the latest edition of BIOS. This year has seen a lot of change for the ASPB. Through TILMA, British Columbia and Alberta have aligned the entrance requirements for membership as professional biologists. Changes to our Regulation under POARA to reflect this alignment have been submitted to Alberta Employment and Immigration, and we should see the government amend the regulation sometime this fall.

The ASPB now needs to continue its work towards additional regulatory reform to reflect the growing need of the ASPB to have the appropriate tools to manage a modern professional organization. We need to consider looking at integrating into regulation our code of ethics, the requirement for members to maintain continued competency, potential alternative dispute mechanisms, inclusion of technologists, and perhaps others.

This year, the ASPB began its first compliance action involving an individual using our protected title while not a member. It is important for the ASPB to do this for a number of reasons. First, the ASPB needs to protect the public interest. A false representation as a regulated Professional Biologist to a client or the public is fraudulent. When the client or public see the P. Biol. designation, they should have the assurance that the individual meets the practice requirements of the Regulator, are assured of the individual's qualifications, know the member is ethically engaged in their practice, and that they are able to rely on the work produced by the individual using the title as being done within that individual's scope of practice. Secondly, the ASPB needs to protect the title on our member's behalf to maintain the value of the designation. Finally, the ASPB needs to be seen to be proactive in such instances as a misrepresentation of the P. Biol. designation to employers and public potentially brings the ASPB into disrepute.

The ASPB this year also retained the Regulatory Practice group in Field Law to provide the ASPB legal counsel and to act on behalf of the organization in a number of areas. They will ensure our discipline and appeal procedures meet administrative law requirements for fairness, as well as provide representation during appeal hearings to ensure due process is followed.

Lastly, the ASPB will see a change in our organization at the top end. Robin Leech, our current Executive Director is moving on after many years of service, and the ASPB will be actively recruiting to fill the gap. Those members who may be interested in the position can check the ASPB website for the position advertisement and additional details.

Many of our field seasons will soon end with the passing of autumn. Continue to work safely. I hope to meet many of you in the months to come.

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BIOS is published for the enjoyment and benefit of the members of the Alberta Society of Professional Biologists and those interested in the field of professional biology. Articles or comments are welcomed and should be sent to the editor, Linda Zimmerling at lindazim@shaw.ca.

A Big Thank You But Not Goodbye

By Carol Engstrom, P. Biol., ASPB Past President

Robin Leech has an ASPB member number of 14. The newest member of the ASPB was just given member number 1746. This shows how long Robin has been a member and an integral part of the ASPB. At the end of September Robin will be retiring as the Executive Director of the ASPB, a position he has held since 2002.

In his position Robin always displayed passion and enthusiasm for biology and for the profession. He worked tirelessly and quite often on his own time to promote the ASPB with members, potential members, government, students and Universities. He was the continuity and history book for the Society when board members came and went and when presidents came and went. In the years of Robin's tenure, the ASPB has grown from about 500 to over 850 members.

As Past-President of the ASPB and on behalf of the membership, I would like to personally thank Robin for his dedication as Executive Director. I would also hope that Robin stays involved in the committees to bring new biologists along. The ASPB will be holding Christmas socials in both Calgary and Edmonton this year where Robin will be present. I hope to see you there.

Alberta Society of Professional Biologists Executive Director Position Available

The Alberta Society of Professional Biologists (ASPB) is seeking an individual to act as Executive Director for the Society to lead its development and growth. The ASPB is the regulatory body for professional biologists in Alberta. The ASPB's current membership is approximately 800 and growing. This contract position is intended to enhance the operation of the Society and to raise our public profile as a professional association in Alberta. Applications should be addressed to the attention of the Executive Director Selection Committee. The position is part-time (3 days per week, contracted annually) with potential to develop into a full-time position.

For more information on this position and the society visit www.aspb.ab.ca
Email: pbiol@aspb.ab.ca

Legal Victory for Endangered Species Across Canada

Court ruling means Department of Fisheries and Oceans must overhaul recovery plans

By Laura Hendrick — Sep 10, 2009

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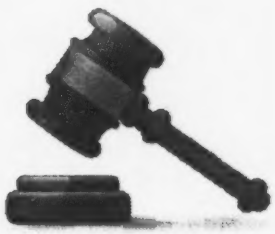
http://www.ecojustice.ca/media-centre/press-releases/legal-victory-for-endangered-species-across-canada?searchterm=Nooksack+dace



Vancouver, BC – A precedent-setting legal victory for endangered species may put an end to years of unlawful action by the Government of Canada. In a September 9 ruling, the Federal Court admonished the Minister of Fisheries and Oceans (DFO) for failing to identify the habitat of the Nooksack dace, an endangered fish restricted to only four streams in BC's Lower Mainland. The ruling will ensure greater protection of species-at-risk and their habitats across Canada: from the smallest minnow to BC's massive humpback whales.

In his judgment, Justice Campbell said the lawsuit, brought by Ecojustice lawyers on behalf of the David Suzuki Foundation, Environmental Defence, Georgia Strait Alliance and the Wilderness Committee, was "absolutely necessary." He described the case as "a story about the creation and application of policy by the Minister in clear contravention of the law, and a reluctance to be held accountable for failure to follow the law."

That law, the *Species at Risk Act*, requires the federal government to identify the critical habitat of endangered and threatened species. The environmental groups' lawsuit was filed in 2007 after the DFO unlawfully deleted habitat maps from the Nooksack dace recovery strategy.

"We are ecstatic about the ruling," said Christianne Wilhelmson of the Georgia Strait Alliance. "We hope that DFO will now start giving real protection to endangered plants and animals without having to be dragged into court for every species it is supposed to protect. Canadians owe a lot to this little minnow and to the scientists who stood up for it."

"This case is not only a tremendous victory for the dace, but for Canadian species everywhere that have been left unprotected by the Act," said Rachel Plotkin of the David Suzuki Foundation.

The court's decision has implications far beyond the Nooksack dace. Justice Campbell ruled that critical habitat for the Nooksack dace was deleted on the basis of an unlawful DFO policy direction. That policy directed that critical habitat information should be removed or suppressed from all recovery strategies for all aquatic species at risk in British Columbia.

"We are putting DFO on formal notice that it has 90 days to rewrite BC species' recovery strategies that have unlawfully failed to identify critical habitat," said Ecojustice lawyer Lara Tessaro. "DFO's unlawful policy appears to have affected at least 20 aquatic species in BC, from resident killer whales to blue whales to Salish suckers. We believe the Court's decision means that DFO must fix at least 17 recovery strategies."

The ruling is the second major legal victory for endangered species in eight weeks. In another Ecojustice lawsuit, the Federal Court also ruled in favour of species-at-risk, holding that the Minister of Environment had acted unlawfully in declining to identify critical habitat of the Prairies' greater sage-grouse.

Photo credit: Dr. Mike Pearson

"This string of successful lawsuits means that the Government of Canada can no longer turn a blind eye to disappearing species by claiming it can't identify critical habitat," said Gwen Barlee of the Wilderness Committee. "This is a whale of a judgement: a ruling about a homely minnow will actually protect BC's endangered humpback and killer whales."

The environmental groups will be participating in a five-year parliamentary review of the *Species at Risk Act*, which is set to resume later this month.

"With the impending five-year review of the *Species at Risk Act* by Parliament, we hope that the inadequacies of the Act's implementation that this case lays bare prompts thorough public hearings by MP's," said Rick Smith of Environmental Defence. "Canadians deserve some answers as to why the federal government is failing to protect our country's natural heritage despite having a legal duty to do so."

For more information, please visit www.ecojustice.ca or contact:

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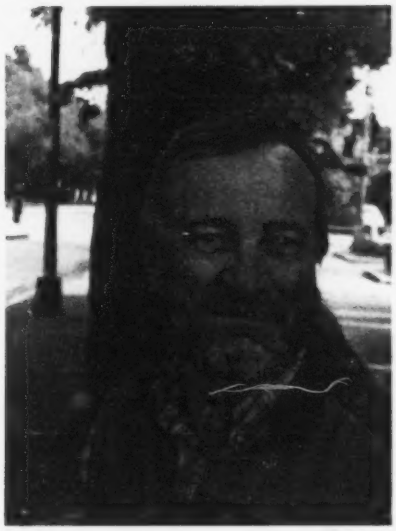
For scientific information on Nooksack dace, please contact Mike Pearson Ph.D., leading Nooksack dace expert, Pearson Ecological, (604) 785-7246

Interview with a Biologist: Lorne Fitch, P. Biol.

By Ngaio Hotte, P. Biol.



Lorne Fitch grew up on a farm west of Red Deer; the outdoors was part of his everyday life. The field of biology appealed to his desire to work outdoors with like-minded people on things that he felt "made a difference."

He began his career in Alberta and has spent much of his career practicing throughout the province, though his expertise has earned him the opportunity to work across Canada, in the western United States and travel to Botswana. Lorne and a colleague were invited to speak about principles of riparian and range management in Alberta in order to help government, policy-makers and farmers minimize negative impacts of Botswana's beef industry on its wildlife.

Learning Experiences

Lorne's experience in Botswana was illuminating. "I had previously dreamed of being an international consultant," he explains. "After a month of working with people in Botswana, it dawned on me that I had spent my life trying to find ways to work with people in my own culture, and here I was parachuting into somewhere else, thinking I could help them."

Lorne also recalls his involvement with the Oldman Dam Mitigation Program as a real learning experience. "One of the things I learned was that we cannot successfully mitigate," he says. Based on most of the material he has experienced, this statement applies in just about any context. "Often, we don't monitor the results of our mitigation projects. So we don't know if they work. But the next time a project comes up, we use the same technique. We do the same things over and over again, hoping for different results."

Cows and Fish

Lorne has roughly 38 years of experience in the field of biology. Riparian management is a subject that is close to his heart. Specifically, he is involved in fisheries and aquatic ecosystems management. But Lorne's real specialty is his ability to work with others in an interdisciplinary setting.

At any given time, Lorne has his hand in numerous conservation organizations; he sits on Alberta Board of the Nature Conservancy of Canada, on Trout Unlimited's National Resource Board, on the Board of Water Matters and spends time on the Code of Conduct and Ethics Committee for the ASPB.

But Lorne may be most recognized for his work with the organization "Cows and Fish". Cows and Fish was established 18 years ago by Lorne and his colleague, Barry Adams. Lorne recalls that the motivation to start Cows and Fish was prompted by anger and frustration. Both Lorne and Barry worked on resource inventories and management in their respective careers with the civil service but felt that, at the time, there was little uptake or breakthrough with respect to management activities.

Lorne and Barry had previously founded and managed the Antelope Creek Ranch demonstration ranch. They used the principles learned at the Ranch and applied them to riparian management. Barry had also developed the Stockman's Course – designed to transfer information about riparian and land management to ranchers in a non-threatening, non-confrontational way. Lorne and Barry applied the communication skills they learned from this experience to their work at Cows and Fish.

"The essence of Cows and Fish," he explains, "is how you deliver stewardship. It's a combination of arrogance and hubris to think that we biologists actually manage anything. Cows and Fish has been a great learning experience about how you convey information to people in such a way that it sticks. Based on that better foundation that the information provides people, they actually make better decisions. The decisions that they make are not only for their own self-interest; they often create situations where the rest of us benefit."

"If you want to change the world, you have to help people understand the way the world works and how to fit themselves into it better. Biologists, more so than others, go through an evolution in their careers. Inevitably, one comes out at the end with a better understanding of how to influence things."

Cows and Fish also recognized early on that they needed allies in order to be effective. They identified two organizations whose cooperation they felt they needed for success: The Alberta Beef Producers and Trout Unlimited Canada. Hence the name: Cows and Fish. Most importantly, Lorne says, he and Barry took the initiative outside of government to improve its longevity by removing its susceptibility to funding cuts. "There are two things that I've learned are key to success in the field of conservation: continuity and persistence."

Changes in the Field

Lorne has noticed two major changes in the field of biology in Alberta during his career:

1) There is increasing reliance on models to predict results. He views this as neither a positive nor a negative change, but worries that the use of models creates a disconnect with the landscape, natural resources and people. He recalls that much of his valuable learning happened in the field through observation, measurement and communication.

2) There is greater reliance on interdisciplinary work. Lorne views this as a huge step in the right direction. "None of us are as smart as all of us are," he says.

Lorne would like to see biologists take on larger roles as advocates of the practice of biology. He envisions biologists lobbying to ensure that plans and policies, initiatives and legislation engender some level of ecological thinking, ecological principles and ecological elements. In our characteristically laid-back approach perhaps we, as biologists, don't press hard enough at issues. "We need to earn a reputation as professionals that ask the right questions instead of just providing the right answers," he says.

He would also like to see biologists become better communicators. "It's ironic that we have at our fingertips the most interesting subject matter of any profession, but arguably we do a really poor job of infusing the public with the passion and enthusiasm for caring for things that are as important as we think they are."

Interesting Facts

Lorne's hobbies include photography and traveling. He is also a freelance writer and contributes articles to discuss conservation issues in Alberta. His favourite plant is rough fescue. "It should be a metaphor for Albertans because it's deep-rooted, long-lived, tenacious in drought and stands up well in the wintertime," he says. "We would be much better citizens if we emulated rough fescue."

Counsel to Resource Professionals

By Lorne Fitch, P. Biol.

Someone wise once said, "Most of the best advice I have received in my life I have often ignored. I only appreciated its wisdom after I had exhausted all the alternatives." For people new (and sometimes not so new) to education/extension, to resource management, and to working in rural communities (and with people anywhere) it seems to be a daunting task to establish oneself:

"How do I avoid being 'branded' by my initial mistakes?"

"What do I do to be accepted as a professional?"

"How do I develop the 'street smarts', and the navigational tools to guide me through the challenges of working with people?"

Consider these bits of counsel:

1. Enthusiasm, commitment and humility will carry you further, open more doors, create more alliances and cover over most mistakes better than the option of hiding behind a shield of technical skills, agency uniforms or academic credentials.

2. Learn to listen and to hear. Listening will challenge you to confront your own beliefs and assess them. Listening to others will provide a continual source of new insight, information and humor. It will expand your horizons and provide a better base to understand people.

3. Don't get fired, but do push the boundaries to see how you can be more effective. Challenge the status quo, question authority and expect letters of reprimand (wear them proudly as a measure of your evolution).

4. In your career you have only so many bullets; use them wisely. Goethe said, "Every man has only enough strength to complete those assignments of which he is fully convinced of their importance." There is only time in most careers to tackle a few things well, or many things in a mediocre fashion. The choice is yours!

5. Gain experience by tackling new challenges. You can move physically to other locations and tasks or, mentally to take on new or expanded responsibilities. Both will provide greater opportunity to learn, to interact with more people and to develop your skill set. However, in your moves allow enough continuity to achieve a measure of relationship building and learning.

6. Share credit with and give credit to others. Cultivate your own sense of self-worth and accomplishment. Being generous (and humble) and sharing credit for accomplishments with both colleagues and others (especially landowners) will build strong and enduring relationships. The credit you share is a hedge against future needs.

7. Expect to change your paradigm at least once over the span of your career. Changing your perspective from "what to think" to "how to think" allows you to objectively assess and weigh new ideas and concepts. The pathway to ignorance and intolerance is paved by being satisfied with one's opinions and content with one's knowledge.

8. If you laugh, you last. Develop your sense of humor and seek humor in the daily activities you pursue. If you can learn to find humor in something you can survive it. Laughter also shortens the distance between people making communication so much more effective.

9. Develop a set of professional ethics based on honesty and integrity. Ethics are a foundation that will guide you through the tough decisions, they will strengthen your resolve to do the "right things" and adherence to them will enhance your reputation.

10. Build relationships, build relationships, and build relationships. Careers are like marriages; it's how we develop the capacity to interact in ways that are positive, enduring and supportive that defines how a career can be rich, rewarding and satisfying.

There are many creeds to live by including those of Homer Simpson; "that sounds great boss' and, 'it was like this when I found it'. My experience is the ten points provided here will stand you well in your career. In protecting our world for today and tomorrow, all of us have the choice of doing nothing or the capacity to do something. It is in our everyday actions that the fate of the world and its inhabitants, wild or otherwise, lie.

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Botanizing on the Right Side of the Brain

Cheryl Hendrickson, Editor

Reprinted with permission from the Field Botanists of Ontario Newsletter Vol. 19 (3/4) fall/winter 2007

Photo reprinted with permission from flickr.com/photos/neonarcade/34774921681

I discovered how the left and right sides of the brain are responsible for different kinds of thinking through a book called Drawing on the Right Side of the Brain by Betty Edwards. Edwards introduces would-be artists to the work of scientists who worked on the "split brain experiments" on patients who had the connective tissue – the corpus collosum – severed that allows the two hemispheres of the brain to communicate with each other. They found that the dominant left hemisphere is responsible for linear, logical thinking, and is the place where our language skills are kept. The speechless right brain holds information on spatial relations, shapes, and creative, intuitive thought.

As Paul Simon mentioned in his song Think Too Much – "They say the left side of the brain dominates the right" – most humans are ruled by their left brain, and the left brain is a crummy artist. It likes to name the parts you are drawing, but it has no sense of the distance between lines or where a nose is, say, in relation to lips or a forehead. Through exercises in her book, Edwards retrains her readers to be aware of and allow the right brain to come out to do what it does best. The bossy left brain will tell you that this is a stupid waste of time, but with practice and persistence, anyone can reproduce an image they see with accuracy.

Reading this, I realized that right brain function had a lot to do with how I identify plants, and perhaps even one of the reasons I am attracted to field botany. As an amateur field botanist, I started out using the Audubon field guides, the ones with colour photographs. I enjoyed turning the pages and looking at the pictures over and over as a pastime. I found when I was botanizing, I knew the name of many flowering plants as soon as I saw them because the pictures stayed in my memory.

In the early days of my field botany career, I was introduced to Peterson's[1], again a reference that relies heavily on shape and colour to identify flowers. Its drawback, however, was that it left you hanging when confronted with a plant before or after flowering. Newcomb's[2] filled this gap if you use the simple three-part key and skipped the first part that describes the flower. Then when you go to the next step where the key is expanded, you just examine every combination of the last two digits, flip to the illustration and see if it matches up. The keys provided in Newcomb's – and pretty much every other reference – are descriptive: they rely on the left side of the brain, the keeper of language and not of shape, to help with identification.

Most people find the genus *Salix* quite daunting – for me I find that looking at the leaf shape and overall growth form makes their identification effortless compared to internalizing the botanical terms necessary to accurately key them out. And I was heartened to read the words of the master *Salix* taxonomist George Argus:

> We all identify objects we know, inanimate as well as animate, by instantaneously integrating a large number of characters. If you were asked, "how do you know that it is such-and-such", it may be difficult to say, and you may list a few of the obvious features, but in reality your brain has integrated many characters and allowed for variability in the process. A taxonomic key is just for someone who doesn't know the species. Keys cannot allow for all the variability that occurs in nature, so even after arriving at an identification, it is necessary to compare it with correctly identified material[3].

I began asking the botanists around me whether they relied more on pictures or keys to identify flowers. I posed the question to Sarah Mainguy on our AGM field trip to Inglis Falls this year. "Oh, you mean GISS", she said. "General impression, size and shape. I think it's an airforce term they use to identify planes in flight." After discussion, I think Sarah figured she used both sides of her brain to botanize. But there are some things about keys, she points out, that are unequivocal: for example, species in the genus ash (*Fraxinus*) most certainly have opposite branchlets and could never be mistaken for, say a hickory (*Carya*), with alternate branching habits if that characteristic is used, even though both have compound leaves. But it is general impression, size and shape, I realized, that allows us to do roadside botany at 100 km/hour.

I ran into John Semple one Saturday, and we stopped to chat about things botanical. I wasn't canvassing for information on the left/right brain botanizing, but John offered up the information without prompting. He used the word "gestalt" in reference to ID-ing plants. "What do you mean, gestalt?" I interrupted. Gestalt is one of those

words I remember cropping up in the parlance of the hip thirty years ago, and the meaning I had eked out without actually asking was "essence." Gestalt is another, more elegant way of describing right brain botanizing – identifying by the image of a plant as opposed to the description. "It's fine if you're dealing with a flora of a few hundred plants" John said, "but when you're dealing with a flora of thousands of species, you have to use a key. Having said that, John Morton and I always agree that the fastest way to ID a plant is to look at illustrations first!!

The literal meaning of the German word "gestalt" is "shape." The left brain has elbowed its way once again into the domain of the shy right hemisphere through those who have produced a body of work describing and analyzing how this kind of thinking works. All of this can be found by googling the word. They use some images to illustrate the different processes involved in shape and image recognition, but what is most impressive is how little information it takes for the right brain to make sense of the image so that the left brain can name it.

In the end, I think both sides of the brain share the task of naming plants. Certainly this is the case for genera that are split out on relatively tiny – even microscopic – differences. I have made my peace with learning and using keys for the reward of knowing the plant's name. But now that I know how it works, I enjoy observing how my right brain identifies not only plants, but other shapes and patterns on the landscape, passing on the information for my left brain to translate to others.

I picked up another book that I am about thirty years behind in reading, an early translation of quantum mechanics for the rest of us: The Dancing Wu Li Masters: An Overview of the New Physics by Gary Zukav. The new physics as started in motion by Einstein early in the last century is a departure from the classical Newtonian physics that dominated science for three hundred years that is a linear, rational, left brain approach to describing natural phenomena. More recently this has taken form in fractal geometry, which is able to explain the non-linear patterns of growth in sunflower disc florets, for example, and chaos theory that attempts to describe ecosystem-level phenomena and severe weather systems. Zukav states:

> The subjective experience of wonder is a message to the rational mind that the object of wonder is being perceived and understood in ways other than the rational. The next time you are awed by something, let the feeling flow freely through you and do not try to "understand" it. You will find that you do understand, but in a way that you will not be able to put into words. You are perceiving intuitively through your right hemisphere. It has not atrophied from lack of use, but our skill in listening to it has been dulled by three centuries of neglect.

Botanizing allows us to use both or either side of our brain to name plants. But when we use our right hemisphere, when we can identify a plant through some component of its two or three dimensional manifestation, we become connected to that part of ourselves that makes intuitive leaps, that can do creative problem solving, and that thinks outside the box. As Einstein said, "I never came upon any of my discoveries through the process of rational thinking". This is the part of ourselves that experiences awe and wonder. This is the process that drives quantum mechanics and chaos theory. It has rescued natural processes from the sterile mechanistic model, explaining what field botanists already see – the enchantment of nature.

[1] Peterson, Roger Tory and Margaret McKenny (1968) A Field Guide to Wildflowers: Northeastern and North-central North America. Boston: Houghton and Mifflin.
[2] Newcomb, Lawrence (1977). Newcomb's Wildflower Guide. Toronto: Little, Brown and Company.
[3] Argus, George (1992). *Salix* in Ontario II. Field Botanists of Ontario Workshop on Willow Identification. Unpublished.

Grass ID Workshop Results Students 1: Grass 0

By: Melissa Moss, P. Biol.

The Quest to ID the Elusive

On July 4, the ASPB hosted a Grass Identification Workshop presented by Kathy, Clare and Steve Tannas of Eastern Slopes Rangeland Seeds Ltd. The workshop was held at the Cochrane Ranche House in Cochrane, Alberta. Course participants included environmental and independent consultants and government employees.

Following a brief in-class presentation on grass phenology, participants broke into groups and headed outside for the informative, hands-on component of the course. Using keys provided by the instructors, participants identified a large number of grass species found in the surrounding area. Later in the afternoon, a looming storm cloud forced everyone back inside to ID the remaining species. Overall, a great, informative day was had by all!

Students keying out grasses at the Cochrane Ranche House.
Photo credit: Laurie Hamilton

Province Ordered to Restore Destroyed Fish Habitat

By Alan Mattson

Article taken from Cochrane Eagle - Cochrane's Source of News and Opinion Online - http://www.cochraneeagle.com posted September 16, 2009
URL to article: http://www.cochraneeagle.com/?p=7873

The Alberta government and a private contractor were handed stiff penalties by a judge after pleading guilty to destruction of fish habitat along the Elbow River.

Alberta Tourism, Parks and Recreation and Wilco Landscape Contractors Ltd. will pay $95,000 in fines, and do extensive repairs after a valuable fish habitat downstream to the Allen Bill Day Use Area, near Bragg Creek, was destroyed in 2006.

Wilco was contracted to do bank stabilization near the Allen Bill Pond, but a member of Tourism, Parks and Recreation decided to remove trees and landscape on the river shore downstream of the pond without informing Fisheries and Oceans Canada.

Trees were cut down and replaced by a landscaped bank with large boulders, meant to protect the day-use area's washrooms and picnic tables from erosion.

"The simplest explanation that came forward was that the person (responsible) might have felt the other area needed to have more protection (from erosion)," said Wayne Johnston of Fisheries and Oceans Canada, the lead investigator on the case.

When trees are undercut by natural erosion, they create sweepers and logjams downstream that provide valuable cover and food for fish, like Alberta's provincial fish the bull trout. The area destroyed was said to be one of the best such habitats on the Elbow River.

The offence site will be remediated by planting trees and other vegetation, but it will take decades to restore it to its original state. "Mother nature is the best at creating habitat," Johnston said. "We can only do so much to be able to get to that certain stage."

The provincial government will pay $65,000 in fines, while Wilco will pay $30,000. Most of that money, $75,000, will go to Trout Unlimited Canada for a fish habitat enhancement project in the Crowsnest Pass, while $20,000 will be donated to the Elbow River Watershed Partnership to promote public awareness and education. "It's really nice for us to be benefited, but it's unfortunate that it had to be a benefit because of (habitat destruction)," said Brian Meagher, a biologist with Trout Unlimited.

"The fish habitat in that stretch of the river is very limited, at best. If they don't have a house to live in, it makes it a lot trickier for them to live."

The judge also ordered the province to remediate two other damaged fish habitats along the Elbow River, totalling about 2,700 square metres. The cost of that work is in addition to the fines.

The province and the contractor — who was told to do the work by Tourism, Parks and Recreation — were charged under the federal Fisheries Act.

Their guilty plea and agreed statement of facts submitted to the court allowed a quick resolution and sentencing, avoiding a trial and further expense of taxpayer dollars, Johnston said.

"There are certain responsibilities that everybody needs to be aware of, from the guy wearing the white hat to the director of the company," Johnston said.

Tourism, Parks and Recreation must also implement a training and awareness program for employees working with fish habitats by June 2010.

"It's good to see that Parks was held accountable," said Meagher of Trout Unlimited. "I think that we often take our watersheds for granted. We often are in a repair mode rather than a protectionary mode."

At top, the affected area in April 2006 had much vegetation for fish to take shelter in. Above, a photo taken in September 2006 shows the illegal landscaping and rocks that destroyed the fish habitat. (Photos courtesy Fisheries and Oceans Canada)

The Freshwater Crisis in Canada

By Robin Leech, P. Biol.

We have a freshwater crisis in Canada, and in the Canadian west in particular. The problem is that politicians and the public have not yet realized it. And without political approval, nothing big or important happens in Canada. A freshwater crisis is not on the political agenda or horizon.

No, the crisis is not caused by global warming. It is caused by increasing human populations, our agriculture and all our industries, and the collective demand for good, clean fresh water from each. However, global warming will exacerbate it, causing the water crisis to hit us harder and faster than we realize. Have you looked at the size of the glaciers in the Rockies in Banff and Jasper parks lately? They are visually much reduced in the last 4 years. When the glaciers in the Rockies, in the mountain national parks, disappear, so will the water in the Bow and North Saskatchewan Rivers, the lifeblood of the cities of Calgary and Edmonton.

But we are not alone with a water crisis in North America. There is an even greater freshwater crisis in the U.S. that has been obvious to them for years. Here is some history on the subject of moving water from Alberta to the U.S. from an Alberta perspective.

Back in the late 1960s and early 1970s, there was a scheme to develop inter-basin water transfer from northern Alberta to southern Alberta, then to deliver that water to the U.S. It was called Prairie Rivers Investment and Management Evaluation, or PRIME Scheme. It called for the creating of dams along the major rivers flowing in Alberta, starting with the Peace River in the north.

However, Albertans then were not really interested in building dams on what they considered pristine rivers (e.g., 3-Rivers Dam that ruined a world-class trout fishery), or the flooding of valleys in good hunting areas (upstream from the Dixon Dam).

Six huge sets of book–like plans (roughly 5 feet wide and 3 feet high and about 6 inches thick) with hundreds of see-through overlays were made. These overlays gave approximate locations for dams and the altitudes (heights above mean sea level) for each water body behind the dams to facilitate inter-basin water transfer. In case you are thinking "Yeah, right!" you should know that most of the dams then proposed are now in place. The public was suckered this time.

Had the dam builders started in the north or south and progressively built these dams, once two or three were in place, it would have been obvious what was happening, and there would have been an instant negative reaction from the public. However, the dams were built one here, then one there, and always with a local reason behind building the dam.

For example, The Dixon Dam was to provide irrigation water for arable land downstream. However, more arable land was flooded upstream than is presently being irrigated downstream. And unless there is an undeclared or ulterior motive for building the Dixon Dam, engineers and economists have told me that only about 10 cents on the dollar spent will ever be realized.

The 3-Rivers Dam was built (so it was said) to prevent downstream flooding at Lethbridge and Medicine Hat. Yet, the spring following the year the dam was built, there were floods in the Lethbridge and Medicine Hat areas. Funny that, eh?

So the plan to have south-bound inter-basin water transfer is still there, and every once in a while the NAFTA threatens to put water on the discussion table.

Where are these massive overlay books you ask? Last I saw they were in Saskatchewan. They were cautiously and carefully moved from prying eyes in Alberta.

So why would the U.S. consider that Canada is such a vast supply source of water? There is a good reason for it.

Canada has about 25% of the World's standing freshwater. Of that 25%, only about 5% is replaced each year, though even this has been reduced lately.

Few politicians, if any, seem to understand the distinction of standing vs replaced freshwater. It is like the difference between standing biomass and biomass turnover. We cannot afford to send water south to the U.S., no matter how desperate things are in the U.S. All it will do is stave off a problem for a few years in the U.S., then shorten the time we have until we are in the same situation. I was going to say "in the same boat," but that doesn't seem appropriate here!

It used to be in Canada that political pressures came from the people, the public, or any large body or group that could put up a fuss for the politicians to hear and see. But, for some time now, the provincial and federal politicians have worked with their own agendas. They really do not need us, the citizens, any more. They are spinning on so much internal action that we are actually in the way. Go away. You bother us. Foreign powers and huge multi-national companies can sway both federal and provincial politicians, though.

Another point along this line of thinking is I am always curious to know the reason we Canadians bend over backwards to sell all our non-renewable resources (gas, oil, bitumen, coal), yet put up a fuss for our renewable resources.

So what is the crisis, you ask? Simple: inter-basin transfer of water to places south of Canada.

The views expressed here are those of the author, not BIOS or the Alberta Society of Professional Biologists.

Guidelines Released for Lower Athabsca Regional Council

The Lower Athabasca Regional Advisory Council (RAC) now has direction on developing a plan under the Land-use Framework. The Lower Athabasca Region covers northeast Alberta and includes the Regional Municipality of Wood Buffalo, including Fort McMurray.

Terms of reference for the Lower Athabasca Regional Plan released July 31,2009 outline potential levels of production from the oil sands, and identify provincial policies and guidelines that will be integrated into the regional plan.

"The terms of reference show government's commitment to developing regional plans that strike a better balance among economic, environmental and social objectives," said Sustainable Resource Development Minister Ted Morton. "They also show that, even though oil sands development is the engine of growth for Alberta and Canada, these will be considered within the context of the region's environment, quality of life, and value of other industries and land uses."

The economic, social and environmental profile for the region was also released. "The profile gives us a clear picture of where we are now," says Heather Kennedy, chair of the Lower Athabasca Regional Advisory Council. "The terms of reference outline what we need to consider and address in our advice so government can develop an effective plan for the future."

The RAC was established to provide advice on how the region should develop over the long-term. Government will consider this advice as it creates a regional plan for the Lower Athabasca region, expected in 2010.

The regional plan will address the unique challenges and opportunities in Lower Athabasca, and will contribute to the vision of the Land-use Framework: Albertans work together to respect and care for the land as the foundation of our economic, environmental and social well-being. The Land-use Framework identifies three outcomes to achieve this vision—a healthy economy supported by our land and natural resources, healthy ecosystems and environment, and people-friendly communities with ample recreation and cultural opportunities.

Backgrounder: Lower Athabasca Regional Plan Terms of Reference

Media inquiries may be directed to:

Dave Ealey, Communications, Sustainable Resource Development

780-427-8636

To call toll-free within Alberta dial 310-0000 or visit

http://www.landuse.alberta.ca

Endangered Species Conservation Committee Update – Summer 2009

By Laurie Hamilton, P. Biol.

The following provides a backgrounder and an update of the activities of Alberta`s Endangered Species Conservation Committee. The ESCC is a multi-stakeholder committee that makes recommendations to the Minister of Environment to list 'at risk' species in the province. Before the ESCC can make a recommendation, a rigorous process is followed. This process involves:

- conducting a status report by a biologist,
- reviewing the status report by a scientific sub-committee, and
- discussing the report and making recommendation to the Minister.

If the status report is deemed to be complete, the status recommended by the scientific sub-committee is put to a vote by the ESCC. If the species is voted `at risk`, the designation for this species is recommended to the Minister for inclusion in the Wildlife Act Regulations. Recovery teams for 'at risk' species, representing various stakeholders, are formed and, through a series of meetings, a recovery plan is created.

To view 'at risk' species (and designation definitions) and recovery plans, where available, visit the following website http://www.srd.gov.ab.ca/fishwildlife/escc/currentlylisted.aspx. More recently, the following species and their associated designations have been recommended by the ESCC.

- Limber pine – threatened
- Whitebark pine – threatened
- Western small footed bat – special concern
- Athabasca rainbow trout – threatened
- Verna's flower moth – data deficient
- Northern myotis – data deficient

OTHER SPECIES AT RISK INITIATIVES

Other items that the Government of Alberta, Sustainable Resource Development have been working on, as they relate to species at risk are as follows:

- The bilateral agreement with the Federal Government, regarding the *Species-at-risk Act* (*SARA*), will be available on the *SARA* registry website under 'permits and agreements'. This agreement will focus on ways to deal with issues/conflicts that arise from differences between federal and provincial legislation.
- Alberta Sustainable Resource Development has just released the Species at Risk Strategy 2009-2014. This can be found at: http://www.srd.gov.ab.ca/fishwildlife/speciesatrisk/strategy2009/default.aspx
- Species of 'Special Concern' will have Management Plans created to provide guidance, outline goals and objectives and often specific targets for these species, as well as identify current policies and guidelines that might lead to declines and which might need to be considered for review and revision.
- The MULTISAR project, in southeast Alberta, involves developing habitat conservation strategies, species at risk plans and general education strategies for multiple species at risk in a holistic approach. For more information, visit the website at: http://www.multisar.ca/

Upcoming Conferences and Workshops

Bioengineering Workshop October 6 - 7, 2009

Sponsored by: Wheatland County, the Waters of Wheatland and Tera Environmental Consultants

Soil bioengineering is an applied science that uses live plant materials to perform an engineering function such as slope stabilization, soil erosion control or seepage control. This is a two day, stream bank restoration workshop. The program will focus on soil bioengineering techniques, options involved in restoration and reclamation of damaged ecosystems and stream bank sites using a combination of structural materials, vegetative cuttings and other specialized techniques.

Topics which will be covered include:

- Factors involved in successful restoration
- Successional reclamation
- Soil bioengineering techniques
- Regional differences in climate, soils, hydrology, plant types, and growing seasons
- Maintenance and monitoring

Instructor:
David F. Polster is a plant ecologist with 30 years of experience in vegetation studies and reclamation. He has developed a wide variety of reclamation techniques for the re-establishment of riparian and aquatic habitats. Mr. Polster is currently involved in the development of effective strategies for the restoration of landslides, riparian areas and other disturbed sites.

For more information phone: 403-934-3321 or email: Sarah.Schumacher@wheatlandcounty.ca

CSEB Annual Meeting and Workshop October 15 - 17, 2009 Edmonton

The Canadian Society of Environmental Biologists (CSEB) is holding its Annual Meeting and workshop on the theme ***"Environmental Monitoring – A Basis for Better Decisions"*** to be held in Edmonton on October 15-17, 2009 (Oct 17 is a field trip). Three keynote speakers will include Dr. David Schindler from the University of Alberta, Dr. Bill Ross from University of Calgary, and Dr. Peter Chapman of Golder Associates, Burnaby. The program also includes over 20 presentations from scientists and researchers from Alberta, BC, Manitoba, and NWT. In addition to the Plenary, the workshop will include sessions on Monitoring Aquatic Ecosystems (including regulatory and research presentations), Monitoring of Terrestrial Ecosystems, General Ecosystem Monitoring & Standards, and Designing Monitoring Programs

Additional details, including the preliminary program and hotel accommodations can be found on the CSEB website at www.cseb-scbe.org. For further information, please contact Gary Ash at gash@golder.com or Anne Wilson at anne.wilson@ec.gc.ca.

Sustainable Water & Sustainable Energy Conference

November 3 - 5, 2009 Sustainable Water & Sustainable Energy Conference
Saskatoon Inn, Saskatoon, SK

For more information go to
http://www.saskriverbasin.ca/confarence.php?id=8

Air & Waste Management Association Annual Conference and Exhibition 2010 — Calgary, Alberta

In June 2010, thousands of environmental professionals from around the world will assemble in Calgary for one of North America's premier environmental networking and solutions events – the Air & Waste Management Association's (A&WMA) 103rd Annual Conference & Exhibition (ACE).

ACE 2010 will provide a forum for balanced discussion on a broad range of topics ranging from highly technical environmental issues to broad social, economic, and environmental public policy debates. The theme of ACE 2010 is Energy and Environment, an appropriate theme for a conference being held in the heart of Canada's energy resources sector, and yet home to some of the most stunning and pristine environments in the world.

The conference features a highly regarded keynote program; over 145 technical/professional sessions; peer reviewed published proceedings; an expansive exhibition showcasing clean technology where over 170 exhibitors will display the latest products and services; professional development courses; and social tours and networking events that provide attendees with the opportunity to learn and share ideas with colleagues from around the world.

Involvement in the ACE 2010 can be enjoyed through many activities such as:

- Preparing and presenting individual or a session of technical papers;
- Chairing technical sessions;
- Conducting peer review of technical papers;
- Creating poster boards for exhibit;
- Acting as a volunteer to assist an organizing committee or during conference;
- Offering to provide technical tours;
- Opening a booth and being an exhibitor;
- Purchasing direct sponsorship of the ACE 2010, an event or a technical session;
- Encouraging students to attend and volunteer, and
- Communicating the vast opportunities of the ACE 2010 among members within your industry association.

Some examples of topics that could be proposed for consideration as papers or technical sessions are provided below:

- Waste Management in the Oil Sands
- Carbon Capture and Storage/Sequestering

- Environmental Monitoring
- Nuclear Energy/Alternative Energy
- Integrating Sustainability into Corporate Practice
- Regional Photochemical Modelling
- Greening of Vehicle Technology
- Climate Change Modelling/Downscaling
- Air Emissions Trading
- Risk Assessments and Protection of Human Health and Environment
- Environmental Issues Related to Coal Bed Methane/Shale Development
- Progress in Remediation/Reclamation Practices
- Water Management in the Oil Sands
- Airsheds and Regulatory Issues
- Developing Brownfields

Articles and Links Worth Sharing

Insect Links (with much more than just insects)

Red Deer River Naturalists
http://www.rdrn.fanweb.ca/rdrn_home_page.htm

Ellis Bird Farm
http://www.ellisbirdfarm.ab.ca/

Entomological Society of Alberta
http://www.biology.ualberta.ca/courses.hp/esa/esa.htm

Edmonton Nature Club
http://ebc.fanweb.ca/

Alberta Lepidopterists' Guild
http://www.biology.ualberta.ca/uasm/alg/index.html

The Albertabugs list Albertabugs@mailman.srv.ualberta.ca
http://www.mailman.srv.ualberta.ca/mailman/listinfo/albertabugs

Entomology seminar series at the University of Alberta http://

www.biology.ualberta.ca/news_events/events/?month=10&year=2009&Series=7

Canadian Museum of Nature

The Evolutionary story of seals is rewritten by a new fossil from Canada's High Arctic

www.nature.ca/puijila

This site is for the Canadian Museum of Nature in Ottawa. A fossil was found on Devon Island, Nunavut, Canada, a few years ago. It is named *Puijila darwini.*

There is a video that explains a few things about the missing link between a land mammal and the pinnipeds (seals, walrus, sea lions, etc.). The fossil is somewhere in the 20-24 million-year-old age.

The University of Alberta Press

Meteorites of Alberta (The) by Anthony J. Whyte

http://www.uap.ualberta.ca/UAP.asp?LID=41&bookID=671

Whiskey-jack Club Updates

1. **Beaver Boardwalk Phase III Grand Opening September 15th - Thanks**

   Thanks everyone for showing up to the opening of the Phase III of the boardwalk. It was a lovely afternoon and about 64 people attended. Thanks to Marilyn and Debby for looking after the food tent and helping with the setup and takedown. Thanks especially to Rick Bonar for his leadership and dedication during all three construction years and Rocky Morin's unfailing efforts. Who knew that a meeting in the fall of 2006 to discuss the idea of a bird list for Maxwell Lake would be an avenue for Rick to present his vision of a boardwalk and the eventual formation of the Whiskey-jack Club. Thanks to Scott Sunderwald, Mahnaz Bourouiba, Rick Bonar and Beth MacCallum who met at the Old Grind at the beginning. Thanks to the Rotary Club, Communities in Bloom, and all the local and corporate supporters. Town of Hinton support has been invaluable for the project development and we look forward to their continued support. Congratulations again to the art contest winners. Their artwork can be seen incorporated into the signage along the interpretive trail. The boardwalk provides the perfect venue for many of the Whiskey-jack activities that can be enjoyed by locals, school groups and visitors (i.e., bird list development, Mother's Day clean-up, June guided tours, fall beaver feeding, and many more).

2. **Feeding Beavers at Maxwell Lake September through to mid October**

   Rick Bonar will be feeding beavers at the Maxwell Lake picnic tables throughout September and into October. They have already consumed 7 truck loads.

3. **Fall Hawkwatch at Yellowhead Tower, September 26 and 27**

   The annual Yellowhead Tower hawkwatch was held on the weekend of September 26 and 27. Rainer Ebel gave a presentation on raptor identification. In previous years we have observed migrating Sharp-shinned Hawk, Cooper's Hawk, Rough-legged Hawk, Golden Eagle and Bald Eagle, Merlin, Red-tailed Hawk, Broad-tailed Hawk and even a Gyrfalcon. We have also had a close-up view of a Northern Pygmy Owl and observed non-raptors, such as Double-crested Cormorant and Common Loon. We are always looking for more birders.

For more information on the Whiskey-jack Club and their activities contact Beth MacCallum at 780-865-4906.

ASPB 2010 Conference

Alberta Society of Professional Biologists 2010 Annual Conference and AGM: Call for volunteers
For more information and to volunteer contact lindazim@shaw.ca or visit www.aspb.ab.ca